

ABSTRACT

Apparatus and methods for adjusting or “hopping” the center frequency or the pulse repetition frequency of a radar system improve the co-locatability of multiple radars commonly located in a region. In a Time Domain Downconversion (TDDC) or Ultra-
5 Wideband (UWB) radar system having a display update period between range sweeps, the preferred device comprises a frequency variable oscillator for adjusting the radar’s internal timing reference frequency during a plurality of the display update periods. Radar frequency hopping methods and apparatus may result in improvements in interference immunity compared to other interference reduction techniques and may achieve cost reduction. In
10 frequency hopping radar, if an actual target is present, the receiver waveform will repeat at the newly adjusted center frequency. Confirmation of a target is realized as an ongoing reflection and not interference.